



Improving Site Assessment: Combined PA/SI Assessments

Office of Emergency and Remedial Response
Site Assessment Team

Quick Reference Guidance Series

ABSTRACT

The U.S. Environmental Protection Agency's (EPA's) Office of Emergency and Remedial Response (OERR) encourages the regions to combine Preliminary Assessment (PA) and Site Inspection (SI) activities, or conduct Integrated Assessments (IAs), to reduce repetitive tasks and ultimately costs. As is the case with its individual components, a combined PA/SI assessment is performed to determine what steps, if any, need to occur next at a site. This guidance document discusses elements and reporting requirements during each phase of the combined PA/SI assessment and supplements existing PA and SI guidance.

BACKGROUND

The *National Oil and Hazardous Substances Pollution Contingency Plan* (NCP) (40 CFR Part 300) requires that EPA perform a preliminary assessment (PA) on all sites entered into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). A detailed site inspection is required if site conditions warrant. These investigations are intended to:

- (1) Eliminate from consideration those sites that pose no threat to public health or the environment;
- (2) Determine the potential need for a removal action;
- (3) Set priorities for future investigations; and
- (4) Gather existing or additional data to facilitate later components of the site assessment process.

Later components include either a Hazard Ranking System (HRS) evaluation or a remedial investigation/feasibility study (RI/FS). These objectives and the means for achieving them are discussed in NCP section 300.420.

Site assessment experience has shown that combined site assessment activities can reduce repetitive tasks and ultimately reduce costs at sites clearly warranting an SI before a full PA is completed. By combining PA and SI activities (e.g., background search, information gathering and file review, field reconnaissance, field sampling, and

reporting requirements), the site assessment process is streamlined, reducing tasks to one continuous site investigation.

WHAT IS A COMBINED PA/SI ASSESSMENT?

The combined PA/SI assessment integrates activities typically performed during the PA (information gathering, site reconnaissance) with activities typically performed during the SI (review of data, development of field work plans, field sampling, filling data gaps) to achieve one continuous site investigation.

Combined PA/SI assessments are different than integrated assessments. While combined PA/SI assessments combine Superfund remedial phases (e.g., PA and SI), integrated assessments integrate activities under both Superfund removal and remedial programs. For information on integrated remedial and removal site assessments, see the document *Improving Site Assessment: Integrating Removal and Remedial Evaluations*¹.

WHEN IS A COMBINED PA/SI ASSESSMENT APPROPRIATE?

In the initial phases of a PA (or even before conducting the PA), the site investigator frequently discovers (through experience and professional judgment) that information

beyond the scope of a typical PA will be needed. Rather than continuing with traditional PA activities and producing a final PA report, PA activities can be combined with field sampling activities of the SI to produce a combined PA/SI.

The combined approach may be appropriate for any site entered in CERCLIS or sites that are brought to our attention by a citizen's petition. Considerations such as the amount of available information and time and resource constraints may affect an investigator's decision as to what type of PA to conduct. In addition to the traditional PA, the combined PA/SI, and IA assessment, you may also elect to conduct an abbreviated PA (APA). For information on APAs, see the guidance document titled *Improving Site Assessment: Abbreviated Preliminary Assessments*². For information on IAs, see the guidance document titled *Improving Site Assessment: Integrating Removal and Remedial Site Evaluations*¹. Each type of PA may lead to a decision that no further Superfund action is required at the site, and to subsequent archival from CERCLIS. Alternatively, each type of PA may lead to the collection of the more detailed information gathered in the SI stage of the process.

HOW DO I CONDUCT A COMBINED PA/SI ASSESSMENT?

You conduct the combined PA/SI assessment to streamline the site assessment process by formulating and testing hypotheses that meet the requirements of both PA and SI activities and producing one report. Although the PA and SI are combined, you must still meet the requirements of both actions as stated in the NCP (see Attachment A). (See also *Guidance for Performing Preliminary Assessments Under CERCLA*³ and *Guidance for Performing Site Inspections Under CERCLA*⁴ for detailed information on investigating and reporting requirements.)

In the first phase of the PA process, you will determine whether the site is eligible for evaluation under CERCLA. Criteria for determining this are identified below (from guidance document titled *Improving Site Assessment: Pre-CERCLIS Screening Assessments*⁵).

Gather enough data to address the screening criteria below, to help make a CERCLIS entry decision. These criteria are primarily based on OERR Directive # 9200.4-05.

A site should not be entered into CERCLIS if:

- The site is currently in CERCLIS, or has been removed from CERCLIS (archived) and no new

data warrant CERCLIS entry. Determine whether the site has previously been evaluated under the Federal Superfund Program to avoid entering a duplicate site record into CERCLIS. Check CERCLIS and archive data for previous entries of a site using site name, location, and site identification number data.

Note: Sites already in CERCLIS with no work started may warrant CERCLIS screening as part of an APA. (See guidance document titled, *Improving Site Assessment: Abbreviated Preliminary Assessments*² for more information on conducting APAs.)

- The site and some contaminants are subject to certain limitations based on definitions in CERCLA. This includes cases where the release is:
 - (1) Of a naturally occurring substance in its unaltered form, or altered solely through naturally occurring processes or phenomena, from a location where it is naturally found;
 - (2) From products that are part of the structure of, and result in exposure within, residential buildings or business or community structures; or
 - (3) Into public or private drinking water supplies due to deterioration of the system through ordinary use.
- A State or Tribal remediation program is involved in response at a site that is in the process of a final clean-up (e.g., a State Superfund program, State voluntary clean-up program, and State or local Brownfields programs).

During the screening process, a file search of other Agency programs eliminates sites where other programs are actively involved. Based on the search of the geographical location of the site and the site name, conduct the search using current databases or telephone calls to staff of other potentially involved programs. You, in consultation with State and Tribal program representatives, are responsible for determining whether another program is actively involved with the site.

When another program with sufficient investigation, enforcement, and remediation resources is actively involved with a site, postpone a decision on CERCLIS entry until all actions have been completed. EPA is responsible for determining if the actions are sufficient and will then determine whether any further Superfund involvement is warranted.

- The hazardous substance release at the site is regulated under a statutory exclusion (e.g., petroleum, natural gas, natural gas liquids, synthetic gas usable for fuel, normal application of fertilizer, release located in a workplace, naturally occurring, or covered by the Nuclear Regulatory Commission (NRC), and Uranium Mill Tailings Radiation Control Act. See CERCLA Section 101(22).
- The hazardous substance release at the site is deferred by policy considerations (e.g., RCRA Corrective Action). Refer to the *Regional QC Guidance for NPL Candidate Sites*⁶ for more examples.

The site investigator should, at a minimum, search other current EPA data sets using site identification data (name and location) to determine whether the site is already being addressed by other authorities.

The NPL/RCRA deferral policy states that sites should not be placed on the NPL if they can be addressed under RCRA Subtitle C corrective action authorities. However, according to the NPL/RCRA policies published June 10, 1986 (51 FR 21057), June 24, 1988 (53 FR 23978), and October 4, 1989 (54 FR 41000), facilities that are subject to RCRA Subtitle C may be listed on the NPL when corrective action is unlikely to succeed or occur promptly, as in the following situations: (1) inability to finance, (2) unwillingness/loss of authorization to operate, (3) unwillingness/case-by-case determination, (4) converters, non- or late filers, (5) pre-HSWA (Hazardous and Solid Waste Amendments) permittees, and (6) when not all of the release from the facility is covered by RCRA corrective action.

- Site data are insufficient to determine CERCLIS entry (i.e., based on potentially unreliable sources or with no information to support the presence of hazardous substances or CERCLA-eligible pollutants and contaminants).

If you are presented with an incomplete checklist, or a checklist with what appears to be unreliable data, you should identify the data deficiencies and forward these data needs to the site investigator for further data collection. For more information, see the Pre-CERCLIS Screening Assessment Checklist/Decision Form in the guidance document titled *Improving Site Assessment: Pre-CERCLIS Screening Assessments*⁵. When it is not feasible to obtain all the information to complete the checklist,

use professional judgement when deciding to place a site in CERCLIS.

- There is sufficient documentation that clearly demonstrates that there is no potential for a release that could cause adverse environmental or human health impacts (e.g., comprehensive remedial investigation equivalent data showing no release above applicable or relevant and appropriate requirements (ARARs), completed removal action of all sources and releases, or a completed EPA approved risk assessment showing no risk).

If the answer is “yes” to any of these items and there is no other Federal Superfund interest, you should assign the site a No Further Remedial Action Planned (NFRAP) designation or defer it to another program. This decision should be documented in a brief APA report (reporting requirements are described below). This action terminates the PA process. If the answer is “no” to any of the bulleted items, you may proceed to the next phase of the PA process, the initial site evaluation.

The following four steps should be taken during the course of the combined PA/SI assessment.

Step 1 -- Starting the Combined PA/SI Assessment

Site investigators may begin the combined PA/SI assessment in the traditional PA process or may plan it as a combined PA/SI assessment following discovery. The combined PA/SI assessment begins when either: (1) you collect data and perform other tasks related to development of the combined PA/SI report; (2) you sign a letter, form, or memorandum to your contractor or State/Tribal government requesting performance of a combined PA/SI assessment at a specific site or group of sites; or (3) you receive written confirmation from a State/Tribal government that the State/Tribal government will conduct the combined PA/SI assessment.

Step 2 -- Initial Review and Planning:

A. CERCLIS Tracking

Refer to the Superfund Program Implementation Manual (SPIM) for data management issues.

B. Conducting the File Review

Before conducting the file review, be aware of the data needs for both the PA and the SI so that you can collect data at one time for use throughout the site investigation. The information needs of the PA are listed in *Guidance for Performing Preliminary Assessments Under CERCLA*³, page 14. You should review these needs, as well as analytical data needs of the SI, before and during the file review phase. Identify data gaps so that reviews can be

focused on finding crucial information. Assess whether information:

- Helps characterize site sources;
- Supports testing of site hypotheses;
- Provides information for HRS site scoring;
- Guides further sampling and analysis;
- Indicates a need for emergency response actions; and
- Indicates health and safety concerns.

The types of information that you should collect and the typical locations where you can find the information are listed in the *Guidance for Performing Preliminary Assessments Under CERCLA*³, pages 21 to 27 and in the *Guidance for Performing Site Inspections Under CERCLA*⁴, chapter 3.

Step 3 -- Field Activities and Documentation:

A. Site Reconnaissance

A site reconnaissance often involves a preliminary viewing of the site to observe source areas and possible evidence of releases of hazardous substances. In some instances, depending on necessity and practicality, an on-site reconnaissance is performed at the PA stage. During a combined PA/SI assessment, an on-site reconnaissance would identify sources and possible targets and begin planning sampling activities. Information on site reconnaissance and field investigation planning can be found in the *Guidance for Performing Preliminary Assessments Under CERCLA*³, section 2.5 and in the *Guidance for Performing Site Inspections Under CERCLA*⁴, chapter 2.

B. Developing HRS-based Decision Making

To develop a preliminary HRS score for the site, collect information and analytical data to determine the likelihood of release, waste characteristics, and targets associated with that site. To that end, look for information indicating, but not limited to, whether:

- A release of CERCLA hazardous substances is documented, either through sampling or observing substances entering a media of concern;
- The hazardous substances at the site are of sufficient toxicity and quantity to represent a risk to human health or the environment, as defined by CERCLA; and

- There are human or environmental targets actually or potentially exposed to releases or potential releases of hazardous substances from the site.

A detailed explanation of each of the above scoring factors, organized by pathway, is found in the NCP, Appendix A (the HRS) and in the *Hazard Ranking System Guidance Manual*⁷. In addition, various tools are available to assist you in developing a preliminary score before the field activities are initiated. This includes PA-Score, which is an automated method of scoring used to test various scoring scenarios.

For those sites that do not receive a preliminary HRS score of 28.50 or greater, prepare an APA report to the site file detailing the rationale for not sampling. In this report, explain why the site poses insufficient human health and/or the environmental risk to warrant further investigation under CERCLA and list the factors that influenced this decision.

C. Developing the Sampling Plan

For all sites that indicate a preliminary HRS score of 28.50 or greater, field data collection and field sampling will be required to prove the hypothesis. During an on-site reconnaissance, plan sampling locations to ensure that evidence of the presence and migration of CERCLA hazardous substances is documented. An explanation of field sample planning can be found in the *Guidance for Performing Site Inspections Under CERCLA*⁴, chapter 3.

D. Performing Field Work

Once you determine that site sampling is needed, field work plans (e.g., sampling, quality assurance, health and safety) will be developed and field work should begin. A detailed explanation of how to conduct field work under CERCLA is in the *Guidance for Performing Site Inspections Under CERCLA*⁴, chapters 3, 4, and 5.

Step 4 -- Final Review and Documentation:

A. Evaluating Data and Preparing a Revised HRS Score

After field work has been performed and media samples have been analyzed, evaluate the data generated by the laboratory (e.g., hazardous substance concentrations, data validation information), along with other field and file data, to determine its usability for HRS scoring. Review field and file information and sampling data to determine whether they meet HRS requirements.

Enter these data into a scoring model to determine whether earlier hypotheses are correct and whether the site score is greater than 28.50. Document the score on HRS scoresheets.

B. Preparing the Combined PA/SI Report

Prepare the combined PA/SI report upon completion of all field and analytical activities, including those elements required in a typical PA report and the more detailed information that would typically be included in an SI. For example, begin the combined PA/SI report with an introduction describing the investigation performed at the site and state that the report serves as documentation of the performance of a combined PA/SI.

Describe the site, its operation, and waste practices and discuss the field work and resulting analytical data. Provide conclusions on the status of the site and recommendations for further investigation. For a detailed description of elements to include in the combined PA/SI report, refer to the *Guidance for Performing Preliminary Assessments Under CERCLA*³ section 4.0 and the *Guidance for Performing Site Inspections Under CERCLA*⁴ chapter 6.

WHAT ARE THE REPORTING REQUIREMENTS FOR THE PA/SI PROCESS?

Document each milestone within the combined PA/SI assessment process to ensure that it meets the requirements of the NCP. Combined PA/SI assessment start dates are required as an internal planning measure. Include planning documents, HRS score sheets, the combined PA/SI assessment checklist, and a final report to document the decision making process.

What Data is Required to be Reported?

Include a letter, form, or memorandum in the site file to your contractor or State/Tribal government (or written confirmation from a State/Tribal government) documenting that a combined PA/SI assessment will be performed.

- Show in the file that you performed an investigation to determine whether the site is being handled under another EPA or State/Tribal program.
- If during the course of the combined PA/SI assessment you determine that the hypothesis is incorrect and no further investigation is warranted, provide appropriate documentation, such as an APA report. The report should include the rationale behind the NFRAP decision.
- After completing the combined PA/SI assessment, prepare a final report as described above.

How Will the Information be Managed?

CERCLIS/WasteLAN is the official national information management system for the Superfund program. Site assessment data must be entered into CERCLIS/WasteLAN and regularly updated to effectively and efficiently manage Superfund's site assessment process. Please refer to the latest version of EPA's SPIM and CERCLIS/WasteLAN Coding Guidance Manual for instructions on entering combined PA/SI assessment information into CERCLIS/WasteLAN.

REFERENCES

1. U.S. Environmental Protection Agency, Pending Publication. Quick Reference Guidance Series - *Improving Site Assessment: Integrating Removal and Remedial Site Evaluations*.
2. U.S. Environmental Protection Agency, October 1999 Quick Reference Guidance Series - *Improving Site Assessment: Abbreviated Preliminary Assessments*. Publication 9375.2-09FS.
3. U.S. Environmental Protection Agency, September 1991. *Guidance for Performing Preliminary Assessments Under CERCLA*. Office of Emergency and Remedial Response. Publication 9345.0-01A.
4. U.S. Environmental Protection Agency, September 1992. *Guidance for Performing Site Inspections Under CERCLA*, Office of Emergency and Remedial Response. Directive 9345.1-05.
5. U.S. Environmental Protection Agency, October 1999. Quick Reference Guidance Series - *Improving Site Assessment: Pre-CERCLIS Screening Assessments*. Publication 9375.2-11FS.
6. U.S. Environmental Protection Agency, December 1991. *Regional Quality Control Guidance for NPL Candidate Sites*. Office of Solid Waste and Emergency Response. Publication 9345.1-08.
7. U.S. Environmental Protection Agency, November 1992. *The Hazard Ranking System Guidance Manual*. OSWER Office of Solid Waste and Emergency Response. Directive 9345.1-07.

FOR MORE INFORMATION

For more information on combined PA/SI assessments, please contact Frank Avvisato at EPA Headquarters, (703) 603-8949 or e-mail at avvisato.frank@epa.gov.

ATTACHMENT A

COMBINED PA/SI ASSESSMENT CHECKLIST

COMBINED PA/SI ASSESSMENT CHECKLIST

Activities performed during a combined PA/SI assessment must still meet the requirements of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) listed below. This checklist can be used to assist you in determining whether the combined PA/SI assessment meets the requirements and is designed to accompany the final PA/SI report. The items listed below can be found in section 300.420 of the NCP.

Checklist Preparer:

(Name/Title)

(Date)

(Address)

(Phone)

(E-Mail Address)

Site Name:

Previous Names (if any):

Site Location:

(Street)

(City)

(ST)

(Zip)

Latitude: _____

Longitude: _____

Complete the following checklist. If “no” is marked, please explain below.

| | YES | NO |
|--|--------------------------|--------------------------|
| 1. Does the site appear in CERCLIS? | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Has a review of existing information about the release, such as pathway(s) of exposure, targets, sources, and nature of the release been performed? | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Has an off-site reconnaissance been performed? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Has a sampling and analysis plan been developed that provide a process for obtaining data of sufficient quality and quantity to satisfy data needs? | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Does the sampling and analysis plan include: | | |
| a) A field sampling plan, which describes the number, type, and location of samples, and the type of analyses, and | <input type="checkbox"/> | <input type="checkbox"/> |
| b) A quality assurance project plan, which describes policy, organization, and functional activities, and the data quality objectives and measures necessary to achieve adequate data for use in site evaluation and hazard ranking system activities? | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Once the combined PA/SI report has been prepared, are the following elements included? | | |
| a) A description/history/nature of waste handling | <input type="checkbox"/> | <input type="checkbox"/> |
| b) A description of known contaminants | <input type="checkbox"/> | <input type="checkbox"/> |
| c) A description of the release | <input type="checkbox"/> | <input type="checkbox"/> |
| d) A description of the probable nature of the release | <input type="checkbox"/> | <input type="checkbox"/> |
| e) A description of pathways of migration of contaminants | <input type="checkbox"/> | <input type="checkbox"/> |
| f) An identification and description of human and environmental targets | <input type="checkbox"/> | <input type="checkbox"/> |
| g) A recommendation on whether further action is warranted (separate letter report) | <input type="checkbox"/> | <input type="checkbox"/> |

Please provide a brief explanation for “no” responses shown above: _____

Checklist Preparer Name/Signature/Date

EPA Regional Reviewer/Date